

Work Order ID **154814*****154814***

Page 1

Thursday, December 22, 2016 7:16:51 AM

Item ID: 647.3915

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Deflector

Start Date: 1/3/2017 Start Qty: 8.00 ***8***

Cust Item ID:

Required Date: 1/9/2017 Req'd Qty: 8.00 ***8***

Customer:

Reference:

DAS

Approvals:

Process Plan:

21
9-89

Date: DEC 22 2016 Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

647.3900

C2

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 29.70"

8

DAS
14
9-89

17/02/10

110

0.30

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.13

HAAS CNC vertical machine #1

1-Machine per folio FB294

DWG REV: CFOLIO REV: AA

17-02-12

8

φ

DAS
08
9-89

2- deburr and break all sharp edges

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process								
Misidentified ☐	☐ Past Due								
		OTHER :							

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Run Start ***NR1***

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120

QC2- Inspect parts off machine FAI/FAIB

0.00

D.A 17-02-12

8

φ

DAS
08
9-89***120***

QC

Memo

0.01

Quality Control

130

QC8- Inspect parts - second check

0.00

DAS
49
9-89***130***

QC

Memo

0.03

Quality Control

8

φ

17/02/13

140

Outsource process-Anodize per QSI017 4.1.10.1

0.00

DAS
13
9-89***140***

Outsource4

Memo

239.99

Outsource process - Anodize

Issue P/O to ATG : 35353

1- Black Anodize as per Dwg 647.3900

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Conformity is required

8

FEB 17 2017

DQA: _____ Date: _____



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Work Order update only ☐

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NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.03							
Packaging	Mat'l Certs req'd.								
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.03							
Quality Control									
180	Identify as per dwg & Stock Location: <u>CC6053</u>	0.00							
180									
Packaging	Memo	0.01							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

8x 2017-03-9

8

DAS
38
MAR 9 2017

8

DAS
6
9-1DAS
41
9-89
17-3-16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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154814

Page 4

Item ID: 647.3915

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Deflector

Start Date: 1/3/2017

Start Qty: 8.00

8

Cust Item ID:

Required Date: 1/9/2017

Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.13

Quality Control

17/3/21 DAS
21
9-89

MAR 16 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Picklist Print

Thursday, December 22, 2016 7:16:51 AM

Work Order ID: 154814

154814

Parent Item: 647.3915

647 3915

Parent Item Name: Deflector

Start Date: 1/3/2017

Required Date: 1/9/2017

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP REV A RQ 14/05/28 VERIFIED BY DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.3915E		Manufactured	No			100	Each	28.0000	1	9			

647 3915F

Deflector

Location

Loc Qty

Loc Code

MAT036

28

116642

2

121942

26

8

DAS
14
9-89

17/02/10

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube ☐</td> <td style="width:12.5%;">Cross tube ☐</td> <td style="width:12.5%;">Water Jet ☐</td> <td style="width:12.5%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Root Cause				FAULT CATEGORY																																																											
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OTHER : _____																																																															



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO. 04948

SHEET 1 OF 2

DWG NO. 647.3900

REV: C

PREPARED BY: M. ANDECK

DATE: 05/04/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED TOLERANCE AND NOTES

ECR:

D-15-01

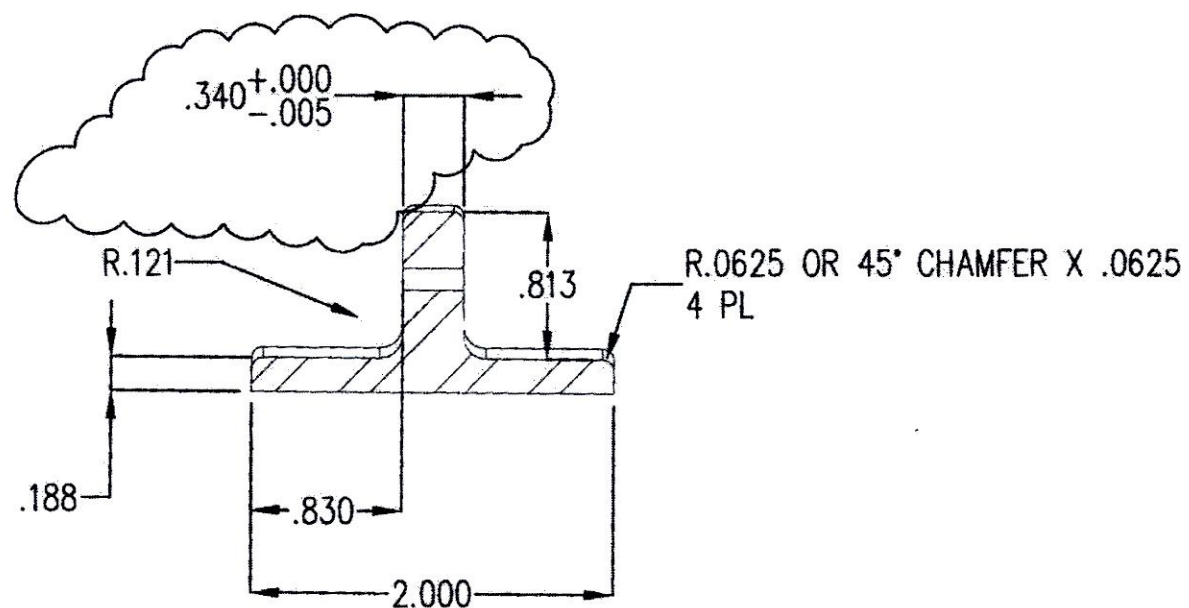
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 154814 MGS
16-12-22

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
- 6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
- 8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N, 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N, 1-2 MIL MAX.
- 10 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.

SHEET 1, ZONE B1 IS:

11	R	647.3917	2			DOUBLER		
F/N	TC	PART NUMBER	.3903	.3902	.3901	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY					
DOCUMENTS EFFECTED:							CHANGE CATEGORY	DER REVIEW REQUIRED
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☒ BOM							☐ MAJOR ☒ MINOR	☐ YES ☒ NO



SECTION AT-AT

SHEET 11, ZONE C1 IS:

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04556

SHEET 1 of 2

DWG NO. 647.3900

REV: C

PREPARED BY D. MEJIA

DATE: 06/10/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY: ENGR

MFG

QC

EFF. NEXT ORDER

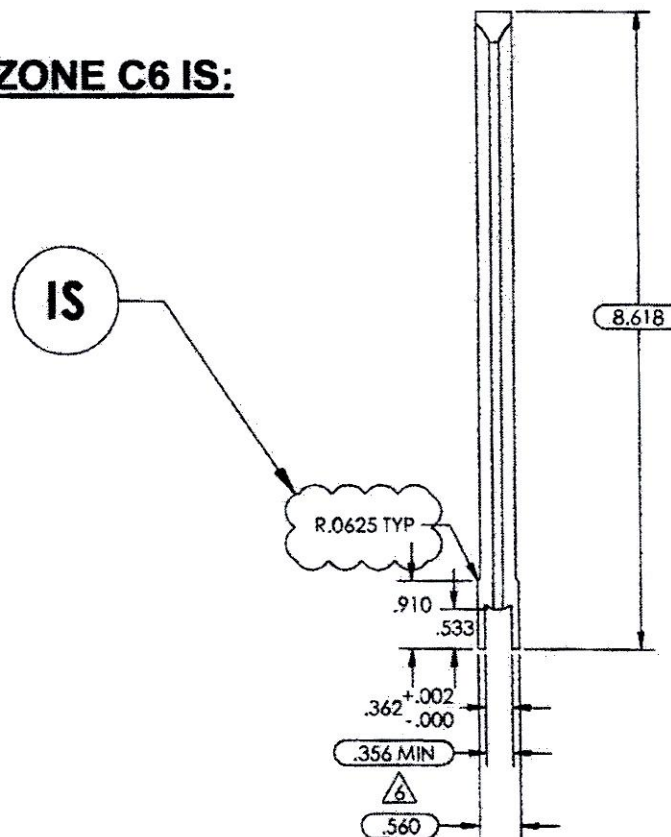
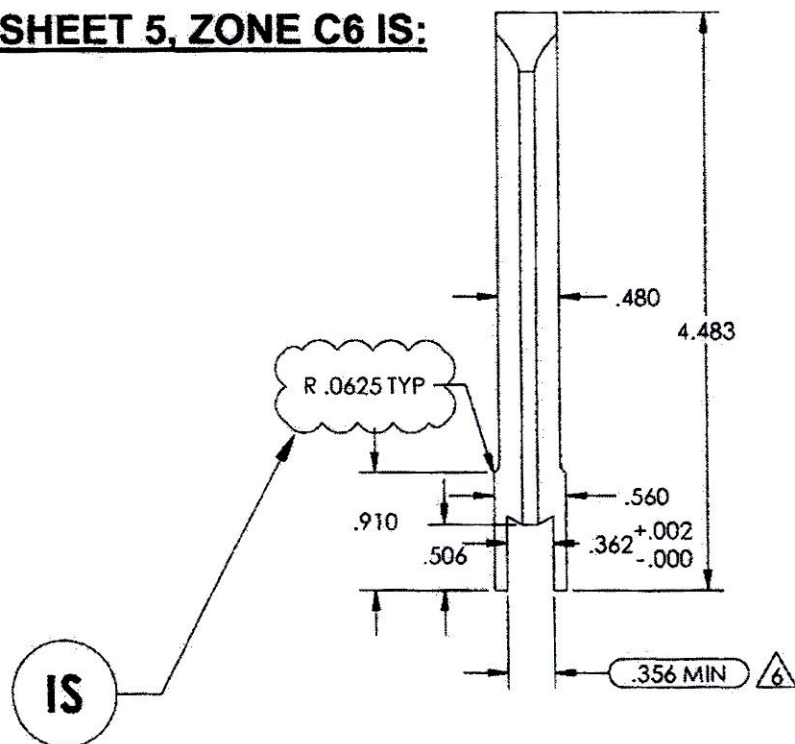
TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: CHANGED P/N, DIMENSIONS & REVISED BOM

ECR: D-14-04

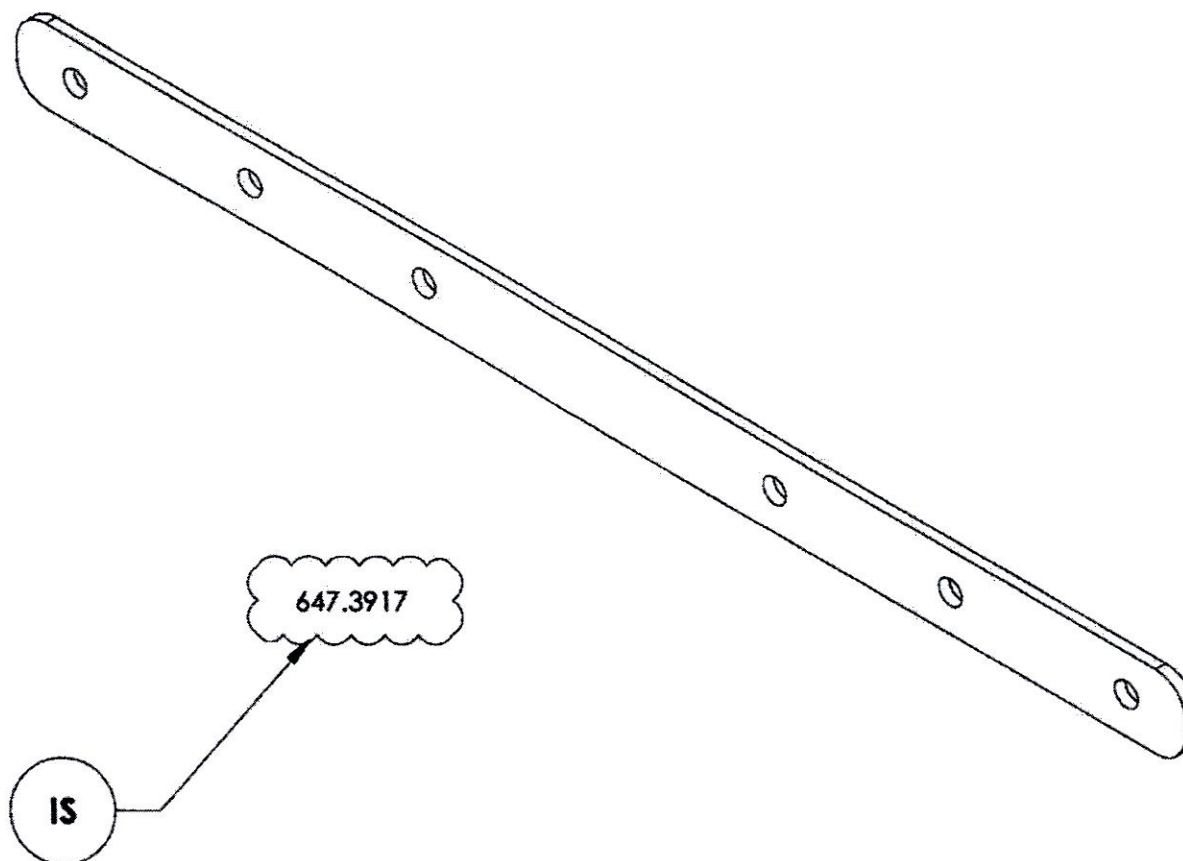
SHEET 5, ZONE C6 IS:

SHEET 6, ZONE C6 IS:



SHEET 1, BOM IS:

11	R	647.3917	2		DOUBLER		
F/N	TC	PART NUMBER	QTY		DESCRIPTION	MATERIAL	SPECIFICATION
		3903	3902	3901			
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

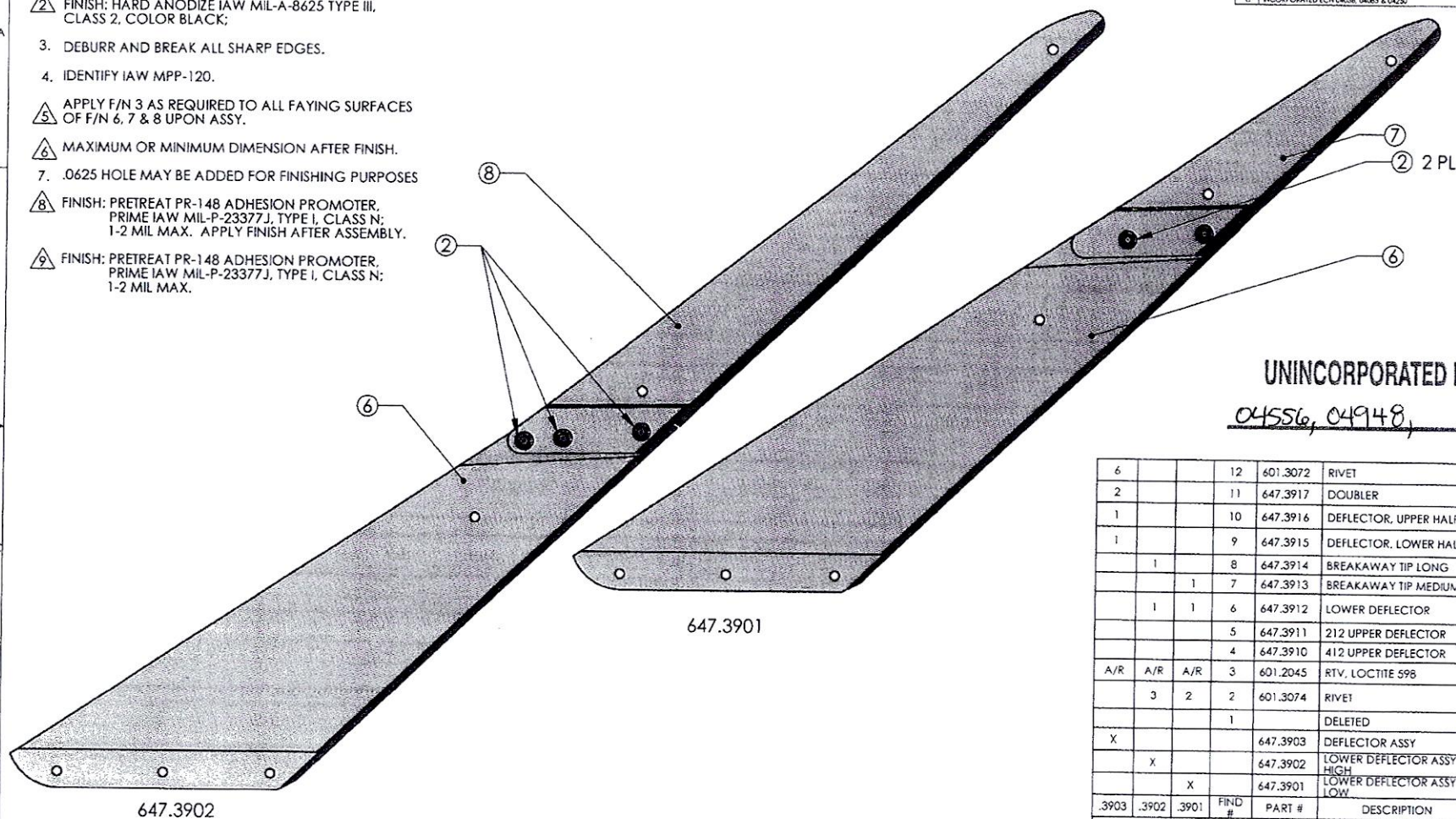
SHEET 12, ZONE B5 IS:

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NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
- 6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
- 8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

REV. DESCRIPTION			DATE	APPROVED
REV.	DESCRIPTION			
1	LAST PROTOTYPE RELEASE: P81			N/C
2	INITIAL RELEASE		07/10/09	P. BRAVO
3	INCORPORATED ECN 0284, 0307 & 0395		07/24/12	P. BRAVO
4	INCORPORATED ECN 04023		08/02/13	P. BRAVO
5	INCORPORATED ECN 0408, 04083 & 04230		11/18/13	P. BRAVO



UNINCORPORATED ECN(S)

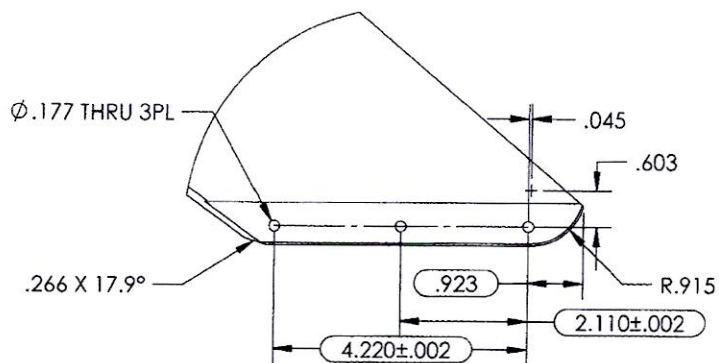
04556, 04948,

6			12	601.3072	RIVET	CR3213-6-9	
2			11	647.3917	DOUBLER		
1			10	647.3916	DEFLECTOR, UPPER HALF	△	△
1			9	647.3915	DEFLECTOR, LOWER HALF	△	△
	1		8	647.3914	BREAKAWAY TIP LONG	△	△
		1	7	647.3913	BREAKAWAY TIP MEDIUM	△	△
		1	6	647.3912	LOWER DEFLECTOR	△	△
			5	647.3911	212 UPPER DEFLECTOR	△	△
			4	647.3910	412 UPPER DEFLECTOR	△	△
A/R	A/R	A/R	3	601.2045	RTV, LOCTITE 598		△
	3	2	2	601.3074	RIVET	MS20470AD-6-12	
			1		DELETED		
X				647.3903	DEFLECTOR ASSY		△
	X			647.3902	LOWER DEFLECTOR ASSY HIGH		
		X		647.3901	LOWER DEFLECTOR ASSY LOW		
.3903	.3902	.3901	FIND #	PART #	DESCRIPTION	MATL	SPEC
QTY							
NEXT ASSY (S)				PARTS LIST			
647.3800				ORIGINAL DATE			
				DRAWN BY			
				CHECKED			
				DESIGNED BY			
				DRAWING APPROVAL			
				CONTRACT NO.			
				UNLESS OTHERWISE SPECIFIED			
				DIMENSIONS ARE IN INCHES			
				TOLERANCES ARE:			
				2 PLACE DECIMALS ± .01			
				3 PLACE DECIMALS ± .005			
				ANGLES ± .5°			
				APICAL INDUSTRIES			
				2608 TEMPLE HEIGHTS DR.			
				OCEANSIDE, CA. 92056-3512 (760)724-5300			
				DEFLECTORS			
				REV. C			
				SCALE NONE			
				SHEET 1 OF 12			

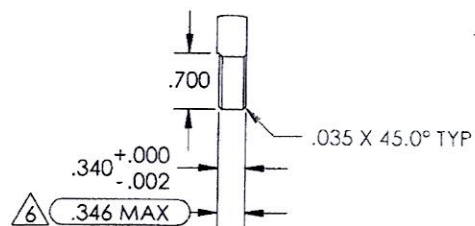
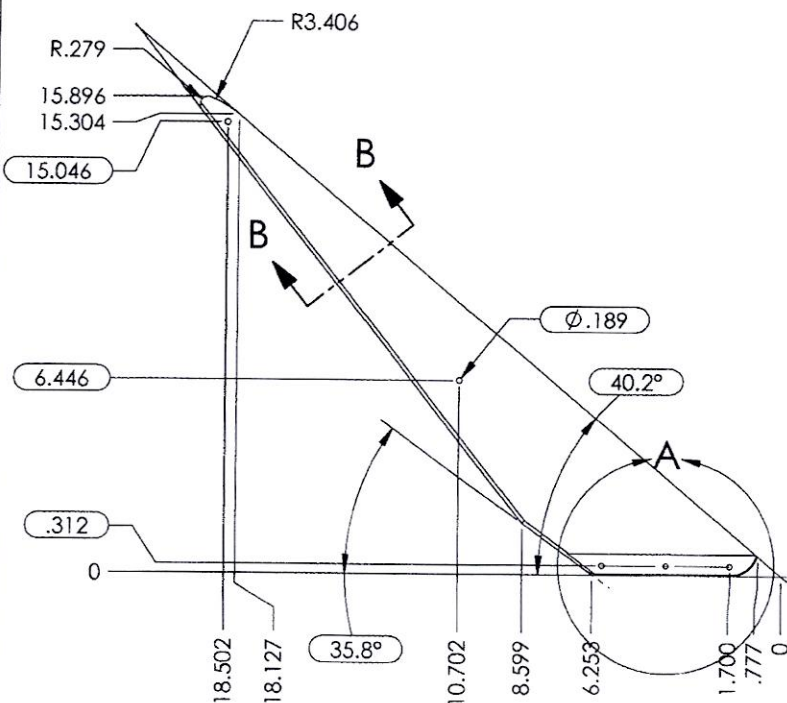
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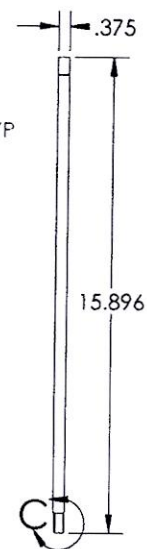
SECTION B-B



DETAIL A



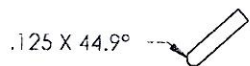
DETAIL C



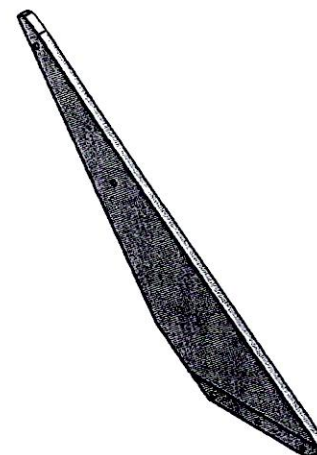
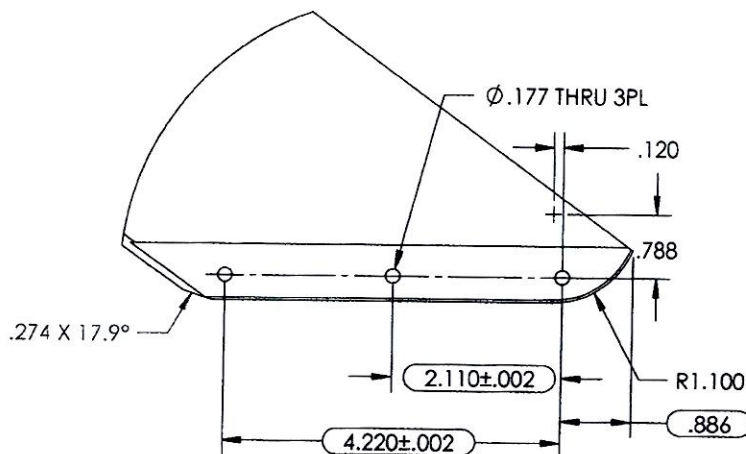
647.3911

ORIGINAL DATE (MM-DD-YY) 08-10-06		APICAL INDUSTRIES	
DRAWN BY DISCHLP	CHECKED D.BARKER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL DATE CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. 3 PLACE DECIMALS ±.01 2. 2 PLACE DECIMALS ±.005 3. ANGLES ±.5°		SIZE B	REV. C
PAGE CODE 07M76		DWG. NO. 647.3900	
SCALE NONE		SHEET 2 OF 12	

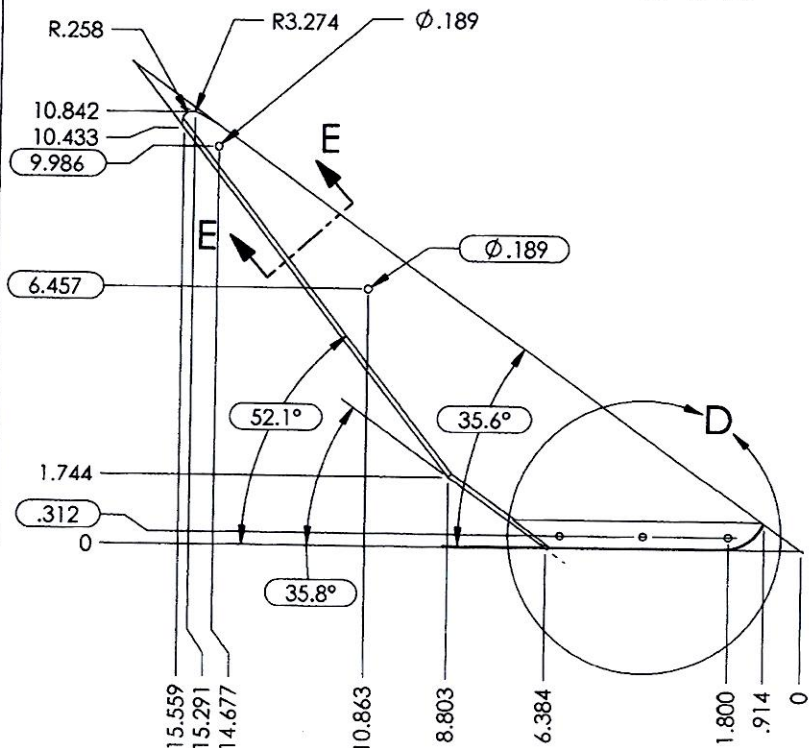
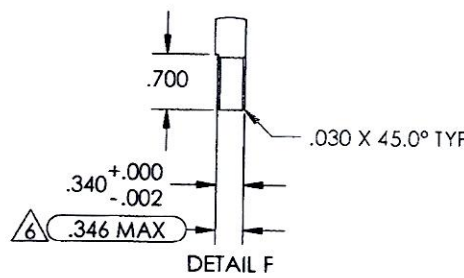
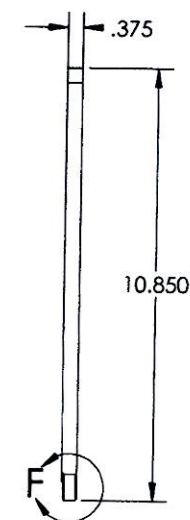
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SECTION E-E

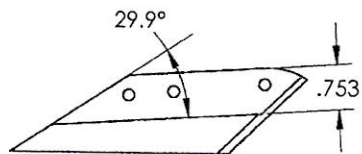


647.3910

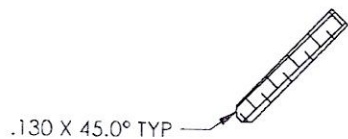


ORIGINAL DATE 10-10-09		APICAL INDUSTRIES	
DRAWN BY: J. SCHUR		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: J. BARKER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAY		DEFLECTORS	
CONTRACT NO.		647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET 3 OF 12	REV C

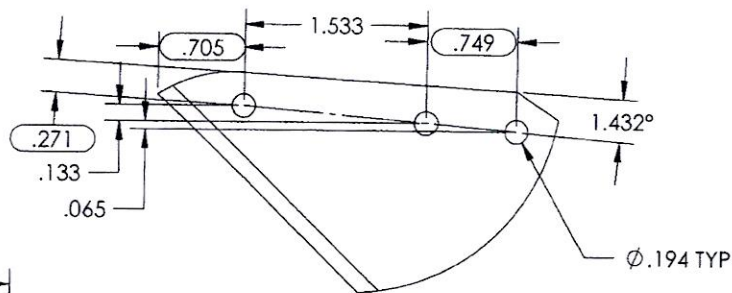
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



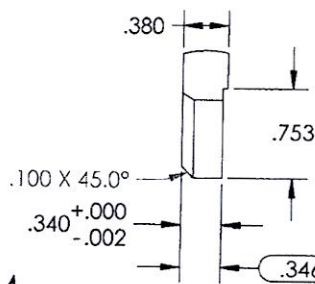
SECTION L-L



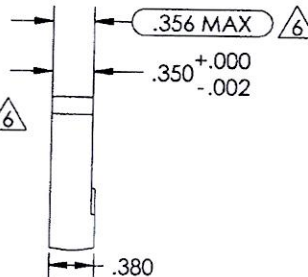
SECTION M-M



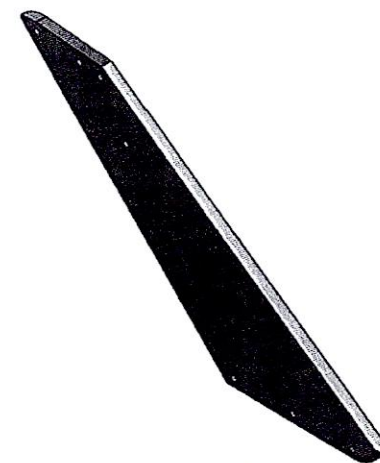
DETAIL H



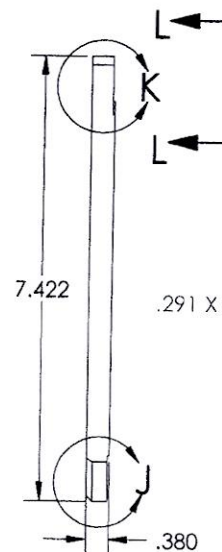
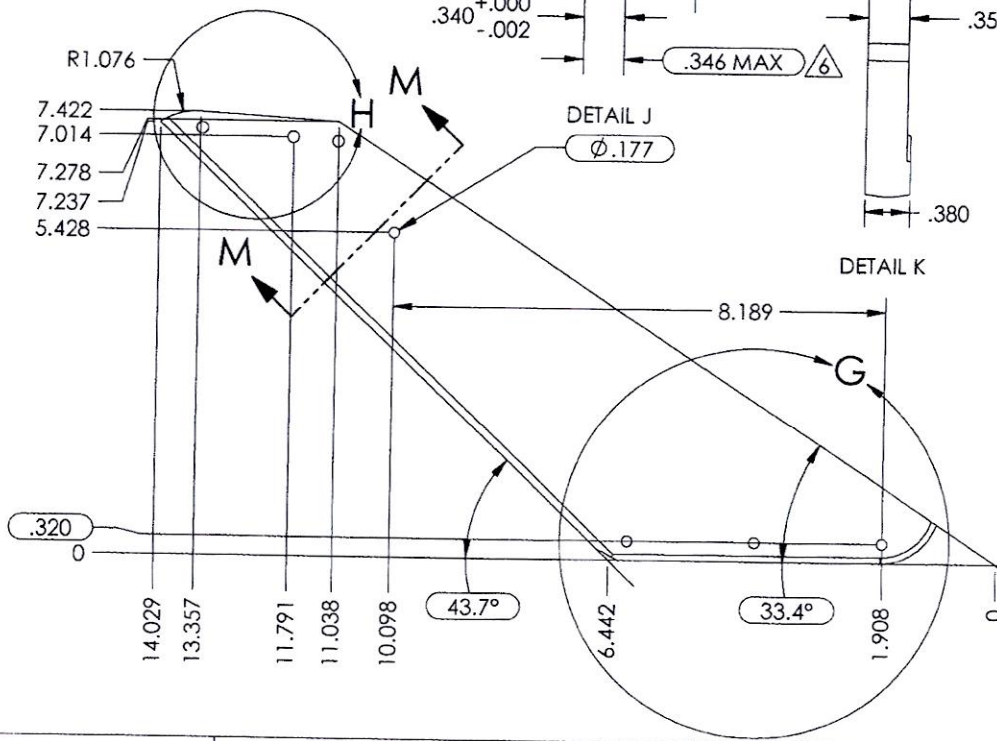
DETAIL J



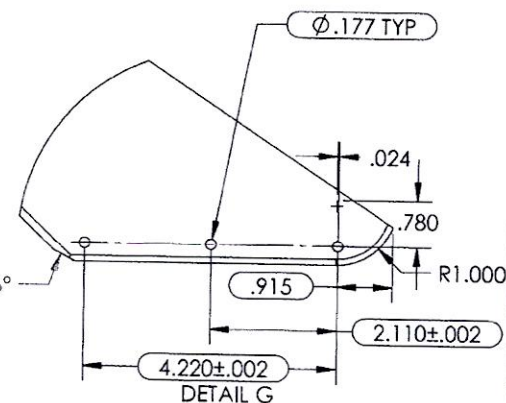
DETAIL K



647.3912



DETAIL G



ORIGINAL DATE ING-DA-191 06-10-09		APICAL INDUSTRIES	
DRAWN BY C. SCHUP		2608 TEMPLE HEIGHTS DR.	
CHECKED BY P. BARKER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		REV	C
TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SCALE	NONE
		SHEET	4 OF 12

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.180 X 45.0° TYP

SECTION N-N

R.269

R3.534

SECTION AD-AD

4.483

3.696

Ø.189 THRU 2PL

Ø.194 THRU 2PL

1.196

.506

.337

0

R.264

41.9°

31.4°

1.780

3.414

3.284

4.029

8.007

7.749

7.036

6.618

3.376

.130

R1.675

1.504

.417

.917

3.135

647.3913

4.483

AD

R.050

.560

.362^{+.002}_{-.000}

.910

AD

.356 MIN

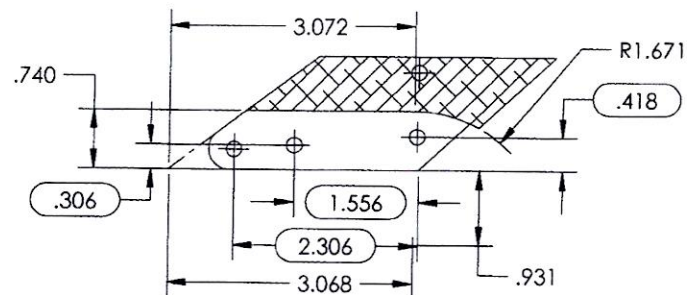
6

ORIGINAL DATE (MO-DA-YR) 09-10-09		DRAWN BY OSCHUR		CHECKED D. BARNER	
DRAWING APPROVAL P. BRAY		CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SCALE NONE		DEFLECTORS	
REV		CAGE CODE B 07M26		DWG NO. 647.3900	
REV		C		SHEET 5 OF 12	

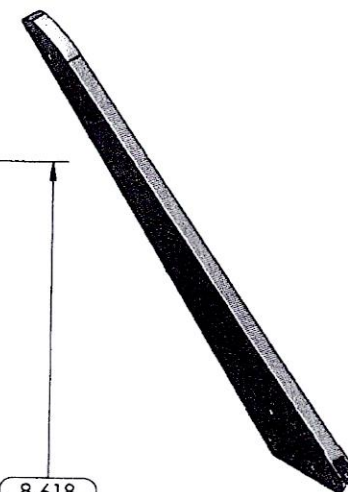
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.175 X 45.0° TYP

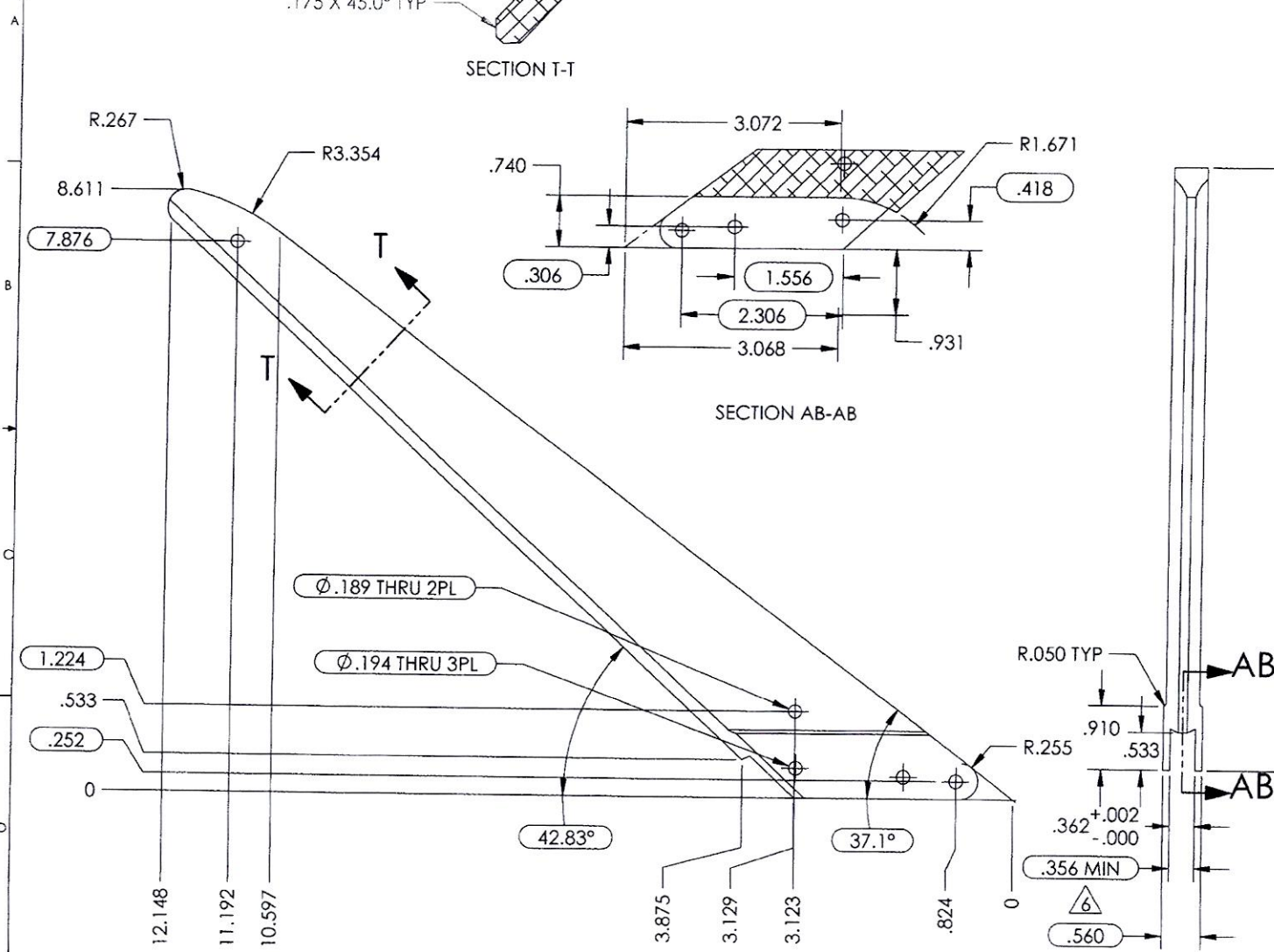
SECTION T-T



SECTION AB-AB

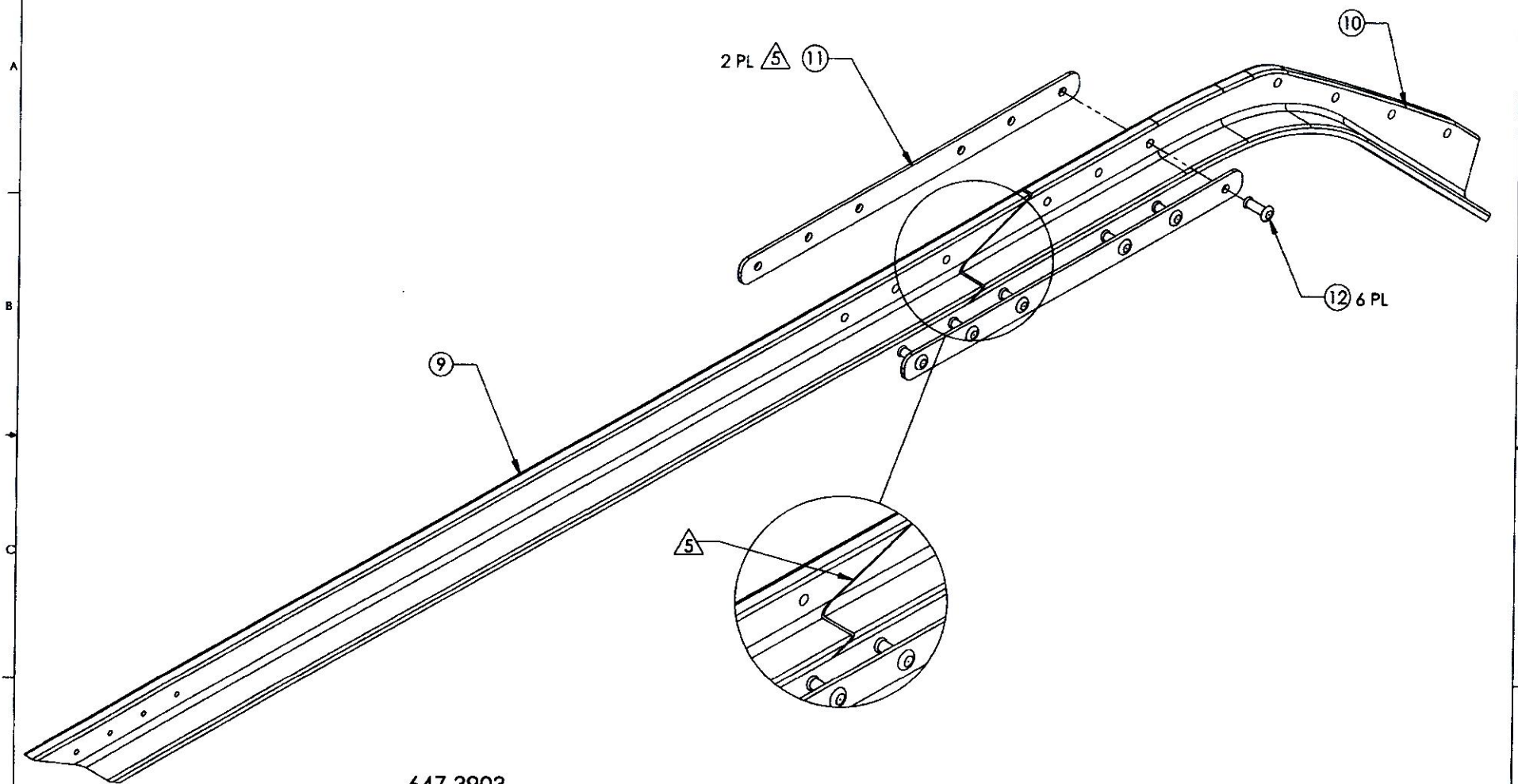


647.3914



ORIGINAL DATE (MM-DD-YY) 07-10-00		APICAL INDUSTRIES	
DRAWN BY: J. SCHUR		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: J. SCHUR		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BARNETT		DEFLECTORS	
CONTRACT NO.		DWG. NO. 647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SCALE NONE	SHEET 6 OF 12

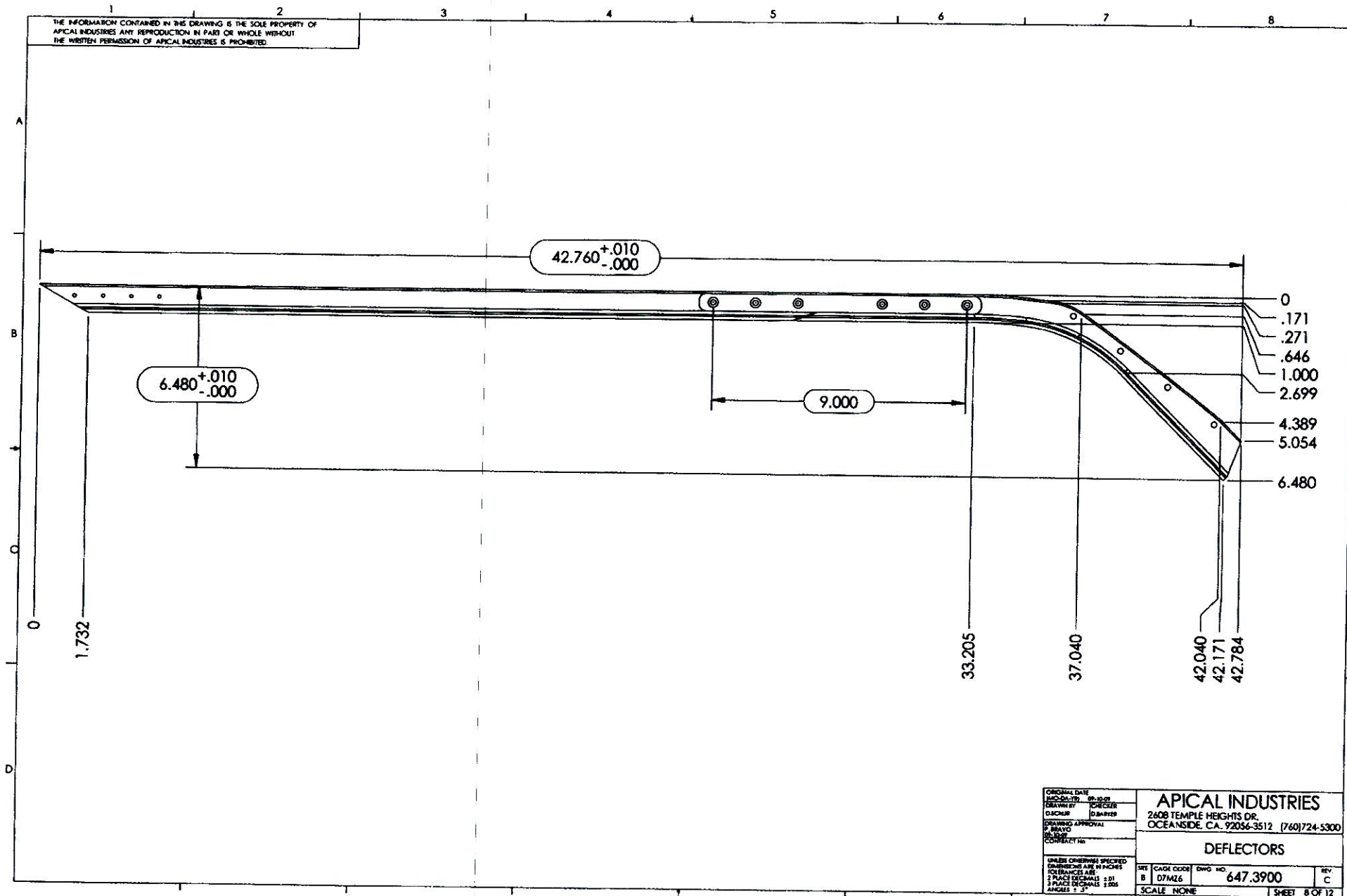
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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



647.3903

ORIGINAL DATE 07/04/78		BY: 10-UP	
DRAWN BY: 03-CHUR		CHECKED BY: 03-BAKER	
DRAWING APPROVAL P. 03-100		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300		DEFLECTORS	
REV.	DATE CODE	QTY. NO.	REV.
B	07/04/78	647.3900	C
SCALE: NONE		SHEET 7 OF 12	

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ORIGINAL DATE 10-01-10		APICAL INDUSTRIES	
DRAWN BY D. SCHUR		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300	
CHECKED BY D. BARBER		DEFLECTORS	
DRAWING APPROVAL P. BRAY		SCALE NONE	
CONTRACT NO.		SHEET 8 OF 12	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REV. C	
SHEET 8 OF 12		DWG. NO. 647.3900	

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647.3915

AM

AN

AR

AR

$\phi .192$

$\phi .116$

0
.375

.400

2.532

4.032

5.532

25.237

26.237

27.237

28.237

DETAIL AM

R.125

$.340^{+.000}$
 $-.005$

.813

R.0625 OR 45° CHAMFER X .0625
4 PL

DETAIL AN

.188

.830

2.000

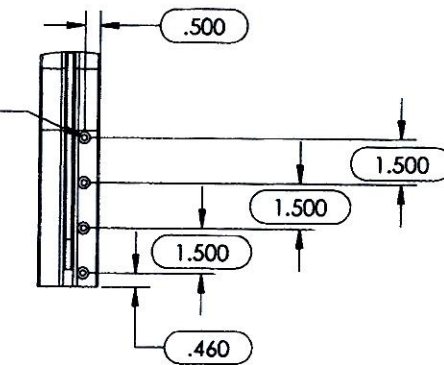
SECTION AR-AR

ORIGINAL DATE MAY 04-1981 09-1985		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY D.SCHUR	CHECKED BY D.BARNER	DEFLECTORS	
DRAWING APPROVAL P. BRAVO 08-1987		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$		SHEET 8	REV C
SCALE NONE		DWG. NO. 647.3900	SHEET 9 OF 12

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4X $\phi .196 \pm .010$ THRU ALL
✓ $\phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$

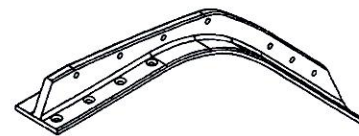


DETAIL AK

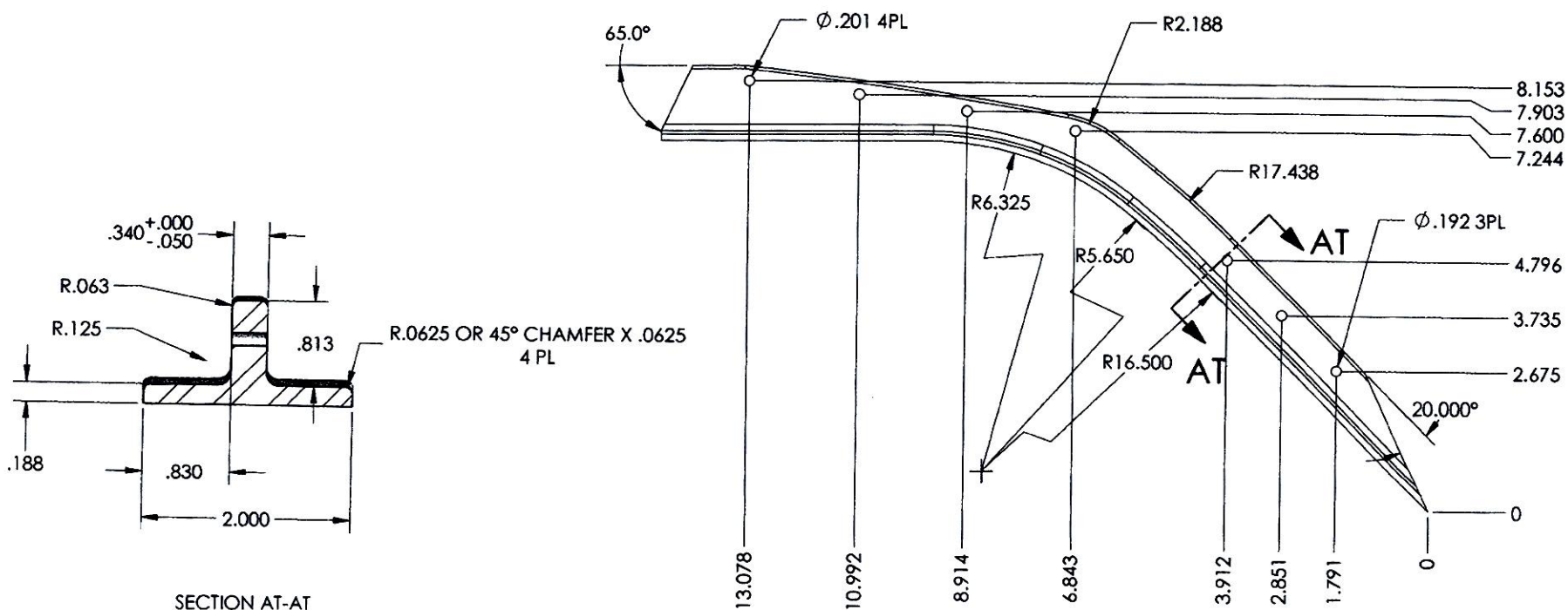
647.3915

ORIGINAL DATE (ISO-DA-101) 09-10-09		APICAL INDUSTRIES	
DRAWN BY D. SCHUP		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY D. BAKER		DEFLECTORS	
DRAWING APPROVAL P. BRAVO		SER [CAGE CODE] DWG. NO. 647.3900 REV C	
CONTRACT NO.		SCALE NONE SHEET 10 OF 12	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°			

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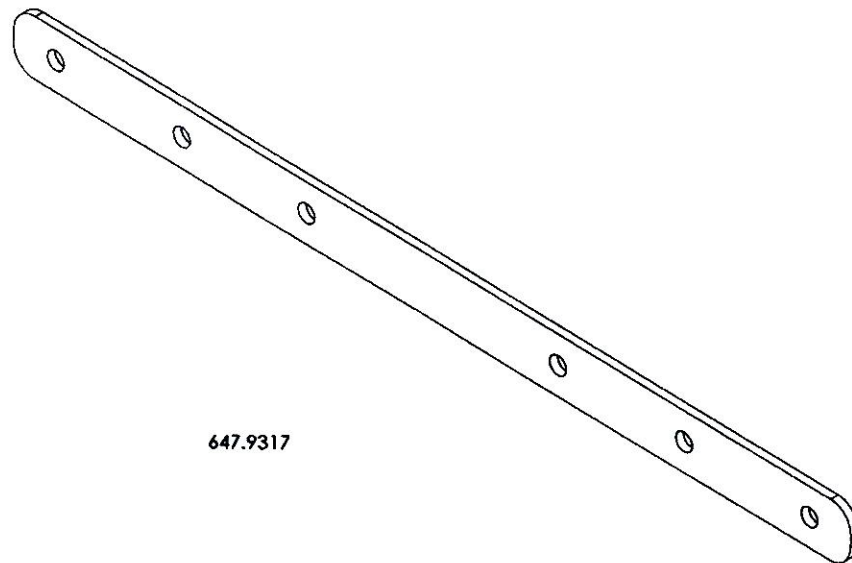


647.3916



ORIGINAL DATE 09-10-09		APICAL INDUSTRIES	
DRAWN BY D.SCHUR		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BEATO		DEFLECTORS	
CONTRACT NO.		DWG. NO. 647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REV. C	
SCALE NONE		SHEET 11 OF 12	

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647.9317

R.250
4 PL

.625

0

.500

2.000

3.500

6.500

8.000

9.500

10.000

.090

Ø.196
6 PL

ORIGINAL DATE 09-04-09		APICAL INDUSTRIES	
DRAWN BY J. SCHUR		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAY		DEFLECTORS	
CONTRACT NO.		CAGE CODE B 07M26	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		DWG. NO. 647.3900	
SCALE NONE		REV. C	
		SHEET 12 OF 12	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO35353**

Purchase Order Date 2/17/2017

PO Print Date 2/22/2017

Page Number 4 of 6

Order From : A.T.G. INDUSTRIES INC. 731 INDUSTRIELLE ROAD ROCKLAND, ON K4K 1T2 CANADA	VC-ATG001	Ship To : DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CANADA
--	------------------	--

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	613-446-4544	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 30
Ship Via:	VENDOR'S TRUCK	Currency	CAD
Ship Acct:		FOB	FCA - (Free Carrier)

Line Total: \$69.30

10 154814

647.3915 DEFLECTOR
REV. C

3/7/2017

8.00

\$35.00

\$280.00

Yes

2/7/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$280.00

11 154810

647.3916 DEFLECTOR
REV. C

3/7/2017

6.00

\$18.10

\$108.60

Yes

2/7/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$108.60

12 155375

647.4210 BRACKET
REV. N/C

3/7/2017

7.00

\$7.90

\$55.30

Yes

2/7/2017

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

2/22/2017



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913024

Date: 08-Mar-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
10 ea	Part: 646.3713 Gusset Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20720	Rev: A PO: PO35353	Line: 1
8 ea	Part: 647.3915 ✓ Deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20729	Rev: C PO: PO35353	Line: 10 SP17-03-9
6 ea	Part: 647.3916 Deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20730	Rev: C PO: PO35353	Line: 11
7 ea	Part: 647.4210 Bracket Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20731	Rev: N/C PO: PO35353	Line: 12
7 ea	Part: 647.4211 Bracket Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20732	Rev: N/C PO: PO35353	Line: 13
20	Part: 650.9201	Rev: A	

SP17-03-9



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913024

Date: 08-Mar-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
10 ea	Part: 647.0110 Roof Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20726 PO: PO35353 Line: 7	Rev: A	
4 ea	Part: 647.1712 Gusset Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20727 PO: PO35353 Line: 8	Rev: E	
6 ea	Part: 647.3914 Breakaway Tip Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Primer per MIL-PRF-23377K, Type I, Class N Job: 20728 PO: PO35353 Line: 9	Rev: C	
DATE: 03/03/2017			
CERTIFIED SIGNATURE: 			
RECEIVER SIGNATURE: 			
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
CERTIFICATE OF CONFORMANCE			
A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS.			
MADE IN CANADA.			